

What is Claimed is:

1. A method of compiling aerial imagery and generating a map there from comprising the steps of:

digitally watermarking image data to include imagery characteristics corresponding to the image data, the image data acquired by an aerial platform; correlating the image data based on the imagery characteristics; and generating a map from the correlated image data.

2. The method according to claim 1, wherein the imagery characteristics comprise at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, azimuth and skew.

3. The method according to claim 1, further comprising the steps of segmenting the image data into a plurality of patches, and wherein said digital watermarking step comprises embedding a watermark in each of the plurality of patches, the watermark including imagery characteristics for its respective patch.

4. The method according to claim 3, wherein said correlating step comprises adjusting image characteristics for at least one of the plurality of patches so that at least two adjacently positioned patches have similar imagery characteristics.

5. The method according to claim 3, wherein said generating step comprises the step of quilting the plurality of patches together to generate the map.

6. The method according to claim 1, wherein the aerial platform comprises at least one of satellite, airplane, space shuttle, and unmanned aircraft.

7. A method of managing aerial imagery comprising the steps of:  
watermarking patches of the aerial imagery, wherein each patch includes at least one watermark, the at least one watermark including an index;  
storing in a database a plurality of data records corresponding to a range of watermark indexes, wherein the data records comprise imagery characteristics.
8. The method according to claim 7, wherein said imagery characteristics comprise at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.
9. A method of generating a map comprising the steps of:  
steganographically encoding data in the form of a digital watermark in each of a plurality of patches, said encoded data including a location indicator; and  
piecing together the plurality of image patches based at least in part on the location indicator.
10. The method according to claim 9, wherein the location indicator identifies the geo-coordinates of the patch.
11. The method according to claim 10, wherein the location indicator identifies the geo-coordinates for each corner of the respective patch.
12. The method according to claim 9, wherein the location indicator identifies a respective patch location relative to the map.
13. The method according to claim 9, wherein the location indicator identifies the respective patch location relative to at least one adjacent patch.

14. The method according to claim 9, wherein the location indicator comprises an index, and said method further comprises the step of indexing a database with the index to retrieve location information.

15. A method of correlating imagery data generated under a plurality of different conditions, said method comprising the step of:

embedding imagery characteristics in the imagery data; and  
modifying the imagery data based on the embedded imagery characteristics so as to standardize at least some of the imagery data.

16. The method according to claim 15, wherein said conditions comprise at least one of aerial platforms, altitude, time, cloud cover, resolution and scale.

17. The method according to claim 15, wherein said imagery characteristics comprise at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.

18. The method according to claim 15, wherein said imagery characteristics comprise an index which is used to identify at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.

19. A data structure stored on a computer readable medium, the data structure comprising an aerial image including an embedded watermark, said watermark including a geographic locator.

20. A data structure stored on a computer readable medium, the data structure comprising an aerial image including embedded data in the form of a digital watermark, said digital watermark including imagery characteristics.

21. The data structure according to claim 20, wherein said imagery characteristics comprise an index which is used to identify at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.
22. The data structure according to claim 20, wherein said imagery characteristics comprise at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.
23. A method of marking a photograph comprising the steps of:  
obtaining geovector information corresponding to a location depicted in the photograph; and  
digitally watermarking the geovector information in the photograph.
24. The method according to claim 23, wherein geovector information comprises at least longitude and latitude coordinates.
25. The method according to claim 24, wherein said geovector information further comprises at least height, time, cardinal direction, and azimuth.
26. The method according to claim 23, wherein the geovector information comprises a pointer.
27. The method according to claim 26, further comprising the steps of storing geovector information in a database and accessing the geovector information via the pointer.
28. The method according to claim 23, wherein the geovector information is obtained from a GPS receiver.

29. The method according to claim 23, wherein the geovector information is obtained after the photograph is taken.
30. The method according to claim 23, further comprising the step of accessing a database to obtain information regarding the area depicted in the photograph.
31. A method comprising the steps of:  
digitally watermarking location information in an object; and  
linking the information to at least one data record.
32. The method according to claim 31, wherein the location information comprises at least longitude and latitude.
33. The method according to claim 32, wherein the object comprises at least one of a document, bracelet, collar, ID document, tag, map, photograph, stationary, and envelop.
34. The method according to claim 31, wherein the location information comprises a geovector including information relating to at least one of longitude, latitude, time, azimuth, cardinal direction, height and sensory characteristics.
35. An article of manufacture comprising steganographically embedded data in the form of a digital watermark, the watermark comprising location information.
36. The article according to claim 35, wherein the location information comprises a geovector comprising at least longitude and latitude information.
37. The article according to claim 36, wherein the geovector further comprises information corresponding to time, azimuth, cardinal direction, and height.

38. The article according to claim 37, wherein the geovector further comprises information corresponding to sensor geometry.

39. A method of notarizing a document, comprising the steps of obtaining a geovector and embedding the geovector in the document in the form of a digital watermark, the geovector comprising date and location information.

40. A method of making a map comprising the steps of:  
obtaining first geovector information corresponding to at least a first region to be depicted by the map; and  
digitally watermarking the first geovector information in the map.

41. The method according to claim 40, wherein said watermarking step comprises embedding the first geovector information only in the first region.

42. The method according to claim 41, further comprising obtaining second geovector information corresponding to at least a second region to be depicted by the map and digitally watermarking the second geovector information in the map.

43. The method according to claim 42, wherein said the second geovector information is only embedded in the second region.

44. The method according to claim 40, wherein the first region comprises at least one of a fire hydrant, tree, road, building, lake, stream, forest, manhole, water line, gas line, power line, park, property line, fence, boarder, depot, geographical area, stadium, hospital, school, church, store and airport.

45. The method according to claim 40, wherein said watermarking step comprises digitally watermarking the first geovector information redundantly throughout the map.